

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 28, 1966

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation
for a unit agreement, Eddy County,
New Mexico.

Case No. 3469

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3469.

MR. HATCH: Application of Gulf Oil Corporation for a unit agreement, Eddy County, New Mexico.

MR. KASTLER: I'm Bill Kastler from Roswell, New Mexico, an attorney, appearing on behalf of Gulf Oil Corporation. Our two witnesses in this case will be Mr. Jack P. Cavanaugh and W. T. Penry. Will you please stand and be sworn?

(Witnesses sworn.)

(Whereupon, Gulf's Exhibits 1 through 6 were marked for identification.)

MR. UTZ: Are there any other appearnaces?

MR. KASTLER: Not in this case.

W. T. PENRY

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Please state your name, by whom you are employed, where, and in what capacity.

A W. T. Penry; I'm employed by the Gulf Oil Corporation, Roswell, New Mexico, as a geologist.

Q Have you previously appeared as a witness before the New Mexico Oil Conservation Commission or an Examiner

Hearing of the New Mexico Oil Conservation Commission?

A No.

Q Will you please briefly review your educational background?

A I graduated in 1951 from the Virginia Polytechnical Institute in Blacksburg, Virginia. I went to work for Gulf Oil Corporation immediately afterwards.

Q In 1951?

A In 1951.

Q What has been your practical experience as a petroleum geologist after graduation?

A I worked as a geologist and geophysicist at the Gulf Research and Development Company, Pittsburgh until 1954, and from then I worked in eastern Venezuela for Gulf from 1954 until 1960. Since that time I have been located in Roswell, New Mexico with the Gulf Oil Corporation.

Q You have been located in Roswell since approximately 1960, Mr. Penry?

A 1961. I am not sure of the exact date.

Q Are you familiar with the geology in the southeast quarter of New Mexico, and more particularly the area in the vicinity of this proposed Springs Unit Area?

A Yes, I am.

MR. KASTLER: Are the witness's qualifications

satisfactory?

MR. UTZ: I believe they are.

Q (By Mr. Kastler) Now, Mr. Penry, will you state in your own words what the geological picture is pertaining to the proposed Springs Unit?

A Yes, I would like to introduce Exhibit No. 1. This is a location map showing the outline of the proposed Springs Unit and the proposed 9,000 foot test. It's in Eddy County, New Mexico on the northwestern margin of the Delaware Basin, about seven miles south of Lakewood and eleven miles northwest of Carlsbad.

Specifically, the proposed test is in the Southwest of the Northeast, Section 34, in Township 20 South, Range 26 East. Geologically this test would be drilled in the Upper Pennsylvanian transition zone, located between the Basin and the shelf facies, as is shown here on the map. This test would be drilled with the anticipation of encountering Cisco reef dolomite, which is the prolific reservoir in the Indian Basin field located ten miles to the southwest.

I would like to call your attention to the cross section A-A¹ shown on this map, which connects the proposed location with nearby well control. The existence of Cisco reef dolomite in the proposed unit area is indicated by the reef type sediments that we encountered in our Gulf No. 4

Seven Rivers Hills Unit, which is located in Section 4 of 21 South, 25 East, also in the J. M. Kelly Lake McMillan Well, which is located in Section 36 of 20 South, 26 East.

Q You encountered reef in that?

A Yes, Cisco reef. If there are no questions on this map, I would like to introduce the cross section A-A¹ as Exhibit 2. The legend of the cross section uses conventional symbols for differentiating the various lithologic units. The horizontal scale is shown graphically and actually is one inch equal two thousand feet horizontally, and the vertical scale is one inch equal a thousand feet. The line of section starting on the west goes through the Phillips No. 1 Seven Rivers Hills Unit. The Gulf No. 4 Seven Rivers Hills Unit, the proposed location, the J. M. Kelly Lake McMillan Unit, and then east to the Ralph Lowe Hanson No. 1 Federal.

Q Reading left to right from the wells on this Exhibit No. 2, they correspond exactly with the wells as shown on the cross section line A-A¹ in Exhibit No. 1, is that not correct?

A Yes, they do.

Q Go ahead.

A Under the proposed location you can see the development shown here of the Cisco reef, and as previously mentioned, it was encountered in the J. M. Kelly Lake

McMillan Unit and in the Gulf No. 4 Seven Rivers Hills Unit. If there are no cross sections, I would like to introduce Exhibit No. 3, which is a structure map showing contours on the Upper Penn-Cisco structure. The contour interval is 100 feet, the scale is one inch equal 3,000 feet. The control wells in the area, and you can see that they are rather numerous, are circled in red, and the datum is posted nearby the well.

Q I believe you have a total of ten control wells?

A Yes, that's correct. Some 500 feet of closure is mapped above a water test in the Gulf No. 4 Seven Rivers Hills Unit that is located in Section 4 of 21 South, 25 East. I would also like to point out that on the north end of the proposed unit we see in Section 15 of 20 South, 26 East, it joins against the Pecos River Deep Unit, and you can see this sketched in with a dashed line on the map.

It starts actually up here in Section 3, comes down, goes west to Section 4, down, and then half-way through Section 9 and down the west side of Section 15. If there are no questions on this map I would like to introduce the final exhibit -- Excuse me.

Q I would like to ask you a question. Your 4700-foot contour line appears to quite neatly surround and define the unit area, doesn't it?

values are shown nearby. We're indicating some 500 feet of reef development through the proposed unit area.

MR. UTZ: You've only contoured the area over which you have reasonable control?

A Yes, sir.

Q (By Mr. Kastler) Also here you seem to have a

A Yes.

Q Except for this area to the north, which is, as you say, already unitized under the Pecos River Deep Unit?

A That's true, except for the North Half of Section 23 where there is a dry hole located.

Q And you have well control to indicate the reason for that curvature?

A Yes.

Q Mr. Penry, is this being proposed as a unit of only deep structures or shallow structures or as unitization for all lands and all zones underneath the surface of the land?

A I believe it to be all zones.

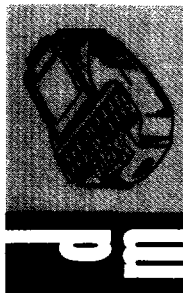
Q Please go on with Exhibit No. 4.

A No. 4 would be the next exhibit, and it's an isopach of the Upper Penn-Cisco reef. The contour interval is 100 feet. The scale is one inch equal 3,000 feet. Here again, the control wells are circled in red and the isopach values are shown nearby. We're indicating some 500 feet of reef development through the proposed unit area.

MR. UTZ: You've only contoured the area over which you have reasonable control?

A Yes, sir.

Q (By Mr. Kastler) Also here you seem to have a



pinchout at the vicinity of the South Line of the Pecos River Deep Unit.

A That is correct. It's controlled by a zero point in the Adams Bend Well, located in Section 23. The evidence of reef development through the proposed unit area, together with the some 500 feet of structural advantage that I believe that we can gain as shown on Exhibit 3, in my opinion justifies the proposed location, the proposed test. These are all my exhibits, if there are any questions.

Q I don't have any.

MR. KASTLER: I would like to move that Exhibits 1, 2, 3 and 4, which were prepared by Mr. Penry, be entered into evidence at this time.

MR. UTZ: Without objection they will be entered into the record of this case.

(Whereupon, Gulf's Exhibits 1 through 4 were offered and admitted in evidence.)

MR. KASTLER: No further questions.

CROSS EXAMINATION

BY MR. UTZ:

Q On your Exhibit No. 3, Mr. Penry, the control you have for this nose that you run up into in Sections 10 and 11, what's the township and range up there?

A That would be in Section 11, that would be 20

South, 26 East.

Q The control for that nose is entirely based on the well in Section 11, is that correct?

A Principally, yes, sir.

Q If it wasn't for that there wouldn't be any reason for it, you could just cut across and might have more symmetrical structure, would you not?

A That is correct.

Q And the control for all contours inside the 4700-foot contour, you really don't have much control. You are just kind of guessing at the total thickness, aren't you?

A Well, we have, inside of the 4700-foot contour there's no control, yes, sir. We have tried to use a gradient established worked out between say the Gulf well and the well, the Atlantic Richfield well down in Section 11.

Q Well, we hope its thicker than you say it is.

MR. UTZ: Any other questions? The witness may be excused.

(Witness excused.)

J. P. CAVANAUGH

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

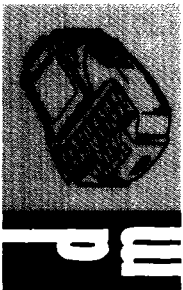
BY MR. KASTLER:

Unit Area.

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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Q Please state your name and by whom you are employed and where and in what capacity.

A My name is J. P. Cavanaugh. I am employed by Gulf Oil Corporation in Roswell, New Mexico as a land man.

Q Have you had past experience handling such unit operating agreements as Gulf has been directly interested in, either as an operator or non-operating party?

A Yes, sir, over twelve years.

Q Have you previously appeared before the New Mexico Commission and testified as a land man?

A Yes, sir, I have. That was in Case 3215 on March 10th, 1965.

Q You are familiar with the Springs Unit Agreement and Unit Operating Agreements?

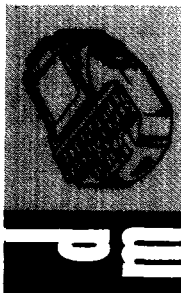
A Yes, I am.

Q And you have copies of those agreements for introduction here as Exhibits No. 5 and 6, is that not correct?

A That is correct.

Q Would you please refer to Exhibit A, which is a portion of the Unit Agreement, which is Exhibit No. 5, and state how many acres are involved in the proposed Unit Agreement?

A There are 5,138.59 acres involved in the Springs Unit Area.



Q Has this same land, to your recollection, been unitized previously?

A Yes, portions of this land, the greater portion of this land has been unitized previously in the Adams Bend Unit; Pan American was the operator.

Q Previous to that had it been unitized, if you know?

A Previous to that it was in the Seven Rivers Hills Unit where Gulf was operator.

Q Each of those units have terminated and now this is the next proposed unit?

A Yes. This Unit Operating Agreement at least supercedes the Adams Bend Operating Unit Agreement.

Q What is the character of the land within the unit as to state, federal or fee acreage?

A In this unit over 93% of the acreage is federal land and a little over 6% is fee lands. There are no lands belonging to the State of New Mexico in this unit.

Q Is there any of the land in the unit area which at this time you have reason to believe will not be committed to the unit area?

A Yes. We have been advised by the Continental Oil Company that 592 acres that is located in Section 2, Township 21 South, Range 25 East will not be committed due to various

budgetary problems they have. However, they have given us an acreage contribution within the unit area of some fee lands that they own.

Q And they have indeed consented to the unitization including this land, although they will not commit their tract No. --

A Tract No. 18.

Q Is that a correct statement?

A That is a correct statement.

Q Are there any other lands that will be uncommitted, to your knowledge?

A To my knowledge there are not any other lands that will be uncommitted lands.

Q Are you familiar with the terms and provisions of the Unit Agreement?

A Yes, sir, I am. This is a federal style Unit Agreement providing for commencement of drilling operations within six months after the effective date, drilling to the objective depth of 9,000 feet, in order to complete a test of the Cisco Formation of the Pennsylvanian age. There will be orderly development drilling conforming to the federal regulations and the Unit Agreement.

Q Are there provisions for subsequent joinder by either working interest owners or royalty owners?

A Yes. Prior to the commencement of the drilling of the well any working interest owner or royalty owner may join after the well is commenced, there is a provision for subsequent joinder.

Q In the Unit Operating Agreement, which is Exhibit No. 6, is there the usual provision as to the cost of the test well, provision for non-consent operations and so forth; primarily, I am asking you is the cost of the test well agreed upon and covered?

A The cost of the test well is agreed upon and is covered by virtue of this agreement and various agreements with other companies not a party to these agreements.

Q In your opinion, would the formation of this unit be in the interest of protection of correlative rights and prevention of waste?

A I certainly do think so, and based on the fact that unit plans are cooperative plans and they provide the best method of orderly development, payment of costs, allocation of production, and we certainly do believe it prevents waste.

Q Are there any early-expiring leases?

A Yes. Unfortunately we have quite a number of early-expiring leases. They are all federal leases that expire on October 31, 1966. These tracts are Tracts 1 through

12, Tracts 16, 17, 20 and 21, or a total of 16 federal leases aggregating some 3668 acres.

Q Have the Regional Supervisor of Oil and Gas Operations and the United States Geological Survey Director granted any preliminary approval to this unit?

A Yes, by letter dated October 8, 1966, signed by Arthur Baker, the Director of the United States Geological Survey in Washington, designates this unit area as a local unit area.

Q They have indicated that they will grant its final approval prior to October 31, 1966 so that these leases can be saved by drilling?

A Yes, they have.

Q Do you have any royalty owners or other working interest owner commitments?

A We have all the working interest owner commitments by virtue of correspondence and letters, not as parties to these agreements as yet. The royalty owners at this time have not been contacted, but as is readily obvious, the United States has consented and they are the greatest royalty owner in the unit.

Q When do you anticipate drilling will commence?

A We hope to have this well started, certainly prior to October 30, and we hope that the Commission will

approve our unit as well as Washington, United States Geological Survey.

Q Are these agreements and Unit Operating Agreements labeled Exhibits 5 and 6?

A They are.

Q Are they the true copies of the instruments and exhibits which will be submitted to the government for final approval?

A Yes, basically they are the instruments that will be submitted to the government for final approval.

MR. KASTLER: I would like to move that Exhibits 5 and 6 now be admitted into evidence.

MR. UTZ: Five and 6 will be entered into the record of this case.

(Whereupon, Gulf's Exhibits 5 and 6 were offered and admitted in evidence.)

MR. KASTLER: That concludes my questions of Mr. Cavanaugh.

MR. UTZ: Any questions of the witness? The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in this case?

MR. KASTLER: No.

MR. UTZ: If there are none, the case will be taken under advisement.



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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

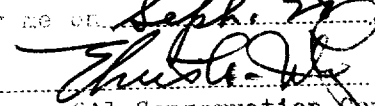
Witness my Hand and Seal this 25th day of October, 1966.


 NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Bernalillo Hearing of Case No. 3469, heard by me on Sept. 27, 1966.


 Examiner
 New Mexico Oil Conservation Commission

dearnley-meier notary public, inc.

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